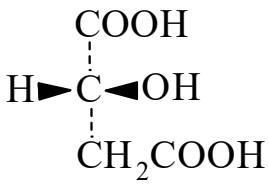
>>**Entry Name: Malic acid,** 8CI
ENTRY UNDER REVIEW
Synonym(s): Hydroxybutanedioic acid, 9CI. Hydroxysuccinic acid. E296. FEMA 2655



(R)-form

CAS Registry Number: 6915-15-7
Related CAS Registry Numbers(s): 149-61-1 676-46-0 3105-51-9 4387-09-1 22138-22-3 39015-77-5 68303-40-2

Molecular Formula: $C_4H_6O_5$
Molecular Weight: 134.088
Accurate Mass: 134.021525
Percentage Composition: C 35.83%; H 4.51%; O 59.66%
Use/Importance: Flavour enhancer and other uses in food
Other Data: See (±)-form for food use
Hazard & Toxicity: Skin and severe eye irritant

>>**Variant:** (*R*)-form
Synonym(s): D-form

CAS Registry Number: 636-61-3

Molecular Formula: $C_4H_6O_5$
Molecular Weight: 134.088
Accurate Mass: 134.021525
Percentage Composition: C 35.83%; H 4.51%; O 59.66%
Biological Source: This enantiomer of rare occurrence; reported from fruits and leaves of *Hibiscus sabdariffa* although there are many more isolations of malic acid with no opt. rotn. given and some may be of the *R*-form
Physical Description: Cryst. (Et_2O)
Melting Point: Mp 101° (97-99°)
Optical Rotation: $[\alpha]_D$ +2.92 (MeOH). $[\alpha]_D^{20}$+28.4 (c, 5.5 in Py) (>99.8% ee)
Solubility: Sol. H_2O, EtOH, Me_2CO
pKa Value: pK_{a1} 5.26 (25°, H_2O)

Aldrich: 12241-6
Fluka: 2300
Sigma: M0750
Supelco: 4-6940

>>**Derivative:** Di-Na salt

CAS Registry Number: 138-09-0
Optical Rotation: $[\alpha]_D$ +8.29 (H_2O)

Sigma: M9138

>>**Derivative:** 1-Me ester

CAS Registry Number: 83540-94-7
Molecular Formula: $C_5H_8O_5$
Molecular Weight: 148.115
Accurate Mass: 148.037175
Percentage Composition: C 40.55%; H 5.44%; O 54.01%
Physical Description: Cryst. (EtOAc/hexane)
Melting Point: Mp 79-80°
Optical Rotation: $[\alpha]_D^{20}$ –5 (c, 9.5 in CH_3OH)

>>**Derivative:** Di-Me ester
Synonym(s): Dimethyl malate